



spin-coating a first photoresist layer of at least 2000Å thick on top of said third insulating material layer;

patterning by UV exposure an ink chamber in said first photoresist layer;

depositing a metal seed layer on said first photoresist layer and patterning an inkjet orifice in said metal seed layer;

spin-coating a second photoresist layer of at least 2000Å thick on said metal seed layer and patterning said inkjet orifice;

removing said developed second photoresist layer except on top of said inkjet orifice;

electroplating Ni on top of said metal seed layer encapsulating said second photoresist layer on top of said inkjet orifice;

stripping away said second photoresist layer on top of said inkjet orifice;

reactive ion etching away said second insulating material layer on said bottom surface of the silicon substrate and said first insulating material layer exposed in said manifold; and

stripping away said first photoresist layer from said ink chamber.





10. A method for fabricating a thermal bubble inkjet head equipped with a symmetrical heater according to claim 1 further comprising the step of patterning said inkjet orifice in said metal seed layer adjacent to said ring-shaped heater.

11. A thermal bubble inkjet head having a symmetrical off-shooter heater comprising:

a silicon substrate having a top surface and a bottom surface;

a first and a second insulating material layer of at least 1000Å thick on said top and bottom surfaces;

a funnel-shaped manifold formed in said second insulating material layer and said silicon substrate;

a symmetrical ring-shaped heater formed on said first insulating material layer on said top surface;

an interconnect formed of a conductive metal in electrical communication with said ring-shaped heater;

a third insulating material layer on top of said ring-shaped heater and said first insulating material layer;

a first photoresist layer of at least 2000Å thick on top of said third insulating material layer;

an ink chamber formed in said first photoresist layer in fluid communication with said funnel-shaped manifold;

a metal seed layer on said first photoresist layer and an inkjet orifice formed in said metal seed layer; and

a Ni layer on top of said metal seed layer with an aperture formed therein in fluid communication with said inkjet orifice.

12. A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said first photoresist layer preferably has a thickness of at least 5000Å.

13. A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said inkjet orifice is formed in close proximity to said symmetrical ring-shaped heater.

14. A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said first and second insulating material layers are a SiO<sub>2</sub> layer or a Si<sub>3</sub>N<sub>4</sub> layer.



